

#### ABSTRACT

A method for determining signal-to-noise ratios and noise levels in an optical signal is disclosed, the first polarisation state of which is converted into a second polarisation state by means of number of tunings of a polarisation regulator. Defined changes to the second polarisation state are adjusted on the Poincare sphere by means of the polarisation regulator, whereby power values for the optical signal are determined after selection of a component of the electrical field. Some of the determined power values for the optical signal are stored and serve for the calculation of the signal-to-noise ratio of optical signals. Said method is rapid, requires little complicated equipment and is particularly suitable for a WDM transmission system in which many channels in a WDM signal are transmitted with small channel separations.